

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

- 1           1.       (Previously presented) A method for generating spatialized audio  
2       from non-three-dimensionally aware applications, comprising:  
3           intercepting parameters associated with audio use from an application;  
4           using the intercepted parameters to obtain location information of a  
5       display window associated with the application within a three-dimensional  
6       display;  
7           calculating an audio source location for the audio; and  
8           positioning the audio at the audio source location in a three-dimensional  
9       sound space, wherein the audio source location is associated with a location of the  
10      display window in the three-dimensional display.
  
- 1           2.       (Original) The method of claim 1, wherein intercepting  
2       information about audio use involves intercepting an audio stream from the  
3       application.
  
- 1           3.       (Original) The method of claim 1, wherein intercepting  
2       information about audio use involves intercepting parameters associated with an  
3       audio stream from the application.
  
- 1           4.       (Original) The method of claim 1, wherein obtaining location  
2       information of the display window associated with the application involves

3 determining a set of coordinates on the three-dimensional display where the  
4 display window is located.

1 5. (Original) The method of claim 1, wherein calculating the audio  
2 source location involves using the location of the display window to calculate  
3 coordinates for the audio source location so that audio from the audio source  
4 location appears to originate at the location of the display window.

1 6. (Original) The method of claim 1, wherein intercepting  
2 information about audio use involves inserting wrapper code around an audio  
3 application programming interface (API) to intercept calls to the audio API.

1 7. (Original) The method of claim 6, wherein the audio API routes  
2 intercepted audio information to a three-dimensional window manager.

1 8. (Original) The method of claim 7, wherein the three-dimensional  
2 window manager manipulates the audio information to position an apparent audio  
3 location prior to sending the audio information to code underlying the audio API.

1 9. (Original) The method of claim 1, further comprising reducing  
2 audio volume of other applications when a given application is issuing a request  
3 for a warning tone, wherein reducing audio volume of other applications causes  
4 the warning tone from the given application to be predominant.

1 10. (Original) The method of claim 1, wherein when a given  
2 application is issuing a request for user attention or the three-dimensional window  
3 manager decides to get the user's attention to a certain application running in the  
4 three-dimensional window, the method further comprises applying spatial audio

5 effects to the audio that the application is generating, wherein the spatial effects  
6 include panning the audio source location in the three-dimensional space left and  
7 right repeatedly and rapidly.

1 11. (Previously presented) A computer-readable storage medium  
2 storing instructions that when executed by a computer cause the computer to  
3 perform a method for generating spatialized audio from non-three-dimensionally  
4 aware applications, the method comprising:  
5 intercepting information about audio use from an application;  
6 using the intercepted parameters to obtain location information of a  
7 display window associated with the application within a three-dimensional  
8 display;  
9 calculating an audio source location for the audio; and  
10 positioning the audio at the audio source location in a three-dimensional  
11 sound space, wherein the audio source location is associated with a location of the  
12 display window in the three-dimensional display.

1 12. (Original) The computer-readable storage medium of claim 11,  
2 wherein intercepting information about audio use involves intercepting an audio  
3 stream from the application.

1 13. (Original) The computer-readable storage medium of claim 11,  
2 wherein intercepting parameters associated with audio use involves intercepting  
3 information about an audio stream from the application.

1 14. (Original) The computer-readable storage medium of claim 11,  
2 wherein obtaining location information of the display window associated with the

3 application involves determining a set of coordinates on the three-dimensional  
4 display where the display window is located.

1 15. (Original) The computer-readable storage medium of claim 11,  
2 wherein calculating the audio source location involves using the location of the  
3 display window to calculate coordinates for the audio source location so that  
4 audio from the audio source location appears to originate at the location of the  
5 display window.

1 16. (Original) The computer-readable storage medium of claim 11,  
2 wherein intercepting information about audio use involves inserting wrapper code  
3 around an audio application programming interface (API) to intercept calls to the  
4 audio API.

1 17. (Original) The computer-readable storage medium of claim 16,  
2 wherein the audio API routes intercepted audio information to a three-dimensional  
3 window manager.

1 18. (Original) The computer-readable storage medium of claim 17,  
2 wherein the three-dimensional window manager manipulates the audio  
3 information to position an apparent audio location prior to sending the audio  
4 information to code underlying the audio API.

1 19. (Original) The computer-readable storage medium of claim 11, the  
2 method further comprising reducing audio volume of other applications when a  
3 given application is issuing a request for a warning tone, wherein reducing audio  
4 volume of other applications causes the warning tone from the given application  
5 to be predominant.

1           20.     (Original) The computer-readable storage medium of claim 11,  
2     wherein when a given application is issuing a request for user attention or the  
3     three-dimensional window manager decides to get the user's attention to a certain  
4     application running in the three-dimensional window, the method further  
5     comprises applying spatial audio effects to the audio that the application is  
6     generating, wherein the spatial effects include panning the audio source location  
7     in the three-dimensional space left and right repeatedly and rapidly..

1           21.     (Previously presented) An apparatus, for generating spatialized  
2     audio from non-three-dimensionally aware applications, comprising:  
3             an intercepting mechanism configured to intercept parameters associated  
4     with audio use from an application;  
5             a location obtaining mechanism configured to use the intercepted  
6     parameters to obtain location information of a display window associated with the  
7     application within a three-dimensional display;  
8             a calculating mechanism configured to calculate an audio source location  
9     for the audio; and  
10            a positioning mechanism configured to position the audio at the audio  
11     source location in a three-dimensional sound space, wherein the audio source  
12     location is associated with a location of the display window in the three-  
13     dimensional display.

1           22.     (Original) The apparatus of claim 21, wherein intercepting  
2     information about audio use involves intercepting an audio stream from the  
3     application.

1           23.     (Original) The apparatus of claim 21, wherein intercepting  
2 information about audio use involves intercepting parameters associated with an  
3 audio stream from the application.

1           24.     (Original) The apparatus of claim 21, wherein obtaining location  
2 information of the display window associated with the application involves  
3 determining a set of coordinates on the three-dimensional display where the  
4 display window is located.

1           25.     (Original) The apparatus of claim 21, wherein calculating the audio  
2 source location involves using the location of the display window to calculate  
3 coordinates for the audio source location so that audio from the audio source  
4 location appears to originate at the location of the display window.

1           26.     (Original) The apparatus of claim 21, wherein intercepting  
2 information about audio use involves inserting wrapper code around an audio  
3 application programming interface (API) to intercept calls to the audio API.

1           27.     (Original) The apparatus of claim 26, wherein the audio API routes  
2 intercepted audio information to a three-dimensional window manager.

1           28.     (Original) The apparatus of claim 27, wherein the three-  
2 dimensional window manager manipulates the audio information to position an  
3 apparent audio location prior to sending the audio information to code underlying  
4 the audio API.

1           29.     (Original) The apparatus of claim 21, further comprising an  
2 volume reducing mechanism configured to reduce the audio volume of other

3 applications when a given application is issuing a request for a warning tone,  
4 wherein reducing audio volume of other applications causes the warning tone  
5 from the given application to be predominant.

1 30. (Original) The apparatus of claim 21, wherein the positioning  
2 mechanism is further configured to apply spatial audio effects to the audio that the  
3 application is generating when a given application is issuing a request for user  
4 attention or the three-dimensional window manager decides to get the user's  
5 attention to a certain application running in the three-dimensional window,  
6 wherein the spatial effects include panning the audio source location in the three-  
7 dimensional space left and right repeatedly and rapidly.